Job Related Information

This document includes information about the role for which you are applying and the information you will need to provide with your application.

1. Role Details

<table>
<thead>
<tr>
<th>Vacancy reference</th>
<th>15206</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job title:</td>
<td>Lecturer in Physics</td>
</tr>
<tr>
<td>Reports to:</td>
<td>Head of School</td>
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<tr>
<td>Salary:</td>
<td>£33,199 - £48,677</td>
</tr>
<tr>
<td>Terms and conditions:</td>
<td>Academic</td>
</tr>
<tr>
<td>Grade</td>
<td>AC2/3 (appointment dependent on experience)</td>
</tr>
<tr>
<td>Duration of post:</td>
<td>Permanent</td>
</tr>
<tr>
<td>Working hours:</td>
<td>Full Time</td>
</tr>
<tr>
<td>Location:</td>
<td>Milton Keynes</td>
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<tr>
<td>Closing date:</td>
<td>Noon on 26 October 2018</td>
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<tr>
<td>Type of application form accepted:</td>
<td>Short</td>
</tr>
<tr>
<td>Number of referees required:</td>
<td>Three</td>
</tr>
<tr>
<td>Unit recruitment contact:</td>
<td>Fiona McGavin</td>
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Summary of duties

The post-holder will join enthusiastic teams in presenting and producing innovative learning resources across our physics curriculum, initially focusing on the development of replacement modules for Stage 3 distance-learning study in electromagnetism and quantum mechanics. They may also be asked to contribute to our introductory interdisciplinary science and/or mathematics curriculum.

In addition to contributing to teaching within the School of Physical Sciences, the post-holder will be expected to secure external funding to support a programme of internationally competitive research (appropriate for the level of appointment), and to contribute to the development of potential new commercial income streams. They will also be expected to be able to contribute to future REF submissions aligned with Physics. They should have a research area aligned with the School’s Physics and Physics Education strategic research priorities (see description below).

Main Duties
All academic staff are expected to undertake a combination of the following duties at a level appropriate for their career stage:

1. Teaching
   a. To contribute to the development, planning, implementation and updating of a high quality and successful curriculum at undergraduate and/or postgraduate levels.
   b. To prepare learning materials suitable for the teaching and learning methodologies used by the Open University.
   c. To contribute to the briefing, debriefing and training of part time teaching staff (Associate Lecturers).
   d. To contribute to the direction of teaching and assessment / examination by the University, monitoring of samples of marking by Associate Lecturers, and to act as a member of examination boards.
   e. To contribute to the assurance and enhancement of the quality of teaching, learning and research within the School and in line with University standards.

2. Research
   a. To undertake a self-directed programme of collaborative research and scholarship in field that will contribute to the strengths of the School, in particular in physics and physics education research.
   b. To generate significant grant income as appropriate.
   c. To undertake research that is internationally excellent and leads to high-impact publications.
   d. To attract and supervise postgraduate research students.

3. Outreach and Public Engagement
   a. To contribute to the STEM outreach activities of the Faculty.
   b. To participate in the national and international science community and learned societies.
   c. To enhance the reputation of the School, the Faculty and the University through scientific meetings and other activities.

4. Enterprise and Impact
   a. To apply/bid for, deliver, and manage individual enterprise activities (e.g. academic supervision of knowledge transfer programmes, consultancy).
   b. To further Faculty interests by developing and maintaining a network of contacts and engagements with businesses and government bodies as appropriate.
   c. To initiate and sustain activities that enhance the impact of your research and scholarship.

5. Administration & Management
   a. To engage with appropriate administrative tasks (e.g. workload planning, Career Development & Staff Appraisal).
   b. To contribute effectively to relevant academic or management fora.

6. Other Responsibilities
a. To undertake a programme of appropriate professional development
b. To comply with the University’s Health and Safety and Equal Opportunities policies in the performance of their duties.
c. To co-operate with the Open University in ensuring as far as necessary, that Statutory Requirements, Codes of Practice, University Policies, and School Health and Safety arrangements are complied with.

2. Person specification

Requirements  (E = Essential/ D = Desirable)

<table>
<thead>
<tr>
<th>Education, qualifications and training</th>
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<tr>
<td>• A PhD in physics or a closely related discipline</td>
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<table>
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<tr>
<th>Knowledge, work and other relevant experience</th>
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<td><strong>Essential:</strong></td>
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<td>• Some experience of teaching in a relevant subject area</td>
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<td>• A broad knowledge of developments relevant to physics teaching and research</td>
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<tr>
<td>• A track record in research that complements existing physics or physics education research at the Open University</td>
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<tr>
<td>• Evidence of applying for external funding, taking into account stage of career</td>
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<tr>
<td>• A good record of demonstrable research impact, commensurate with stage of career</td>
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<tr>
<td>• Ability to develop new research collaborations within the University and with external organisations</td>
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<td>• A good publication record in mid to top-ranking peer reviewed journals, commensurate with stage of career</td>
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<tr>
<td><strong>Desirable:</strong></td>
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<tr>
<td>• Experience of producing online and/or distance learning materials</td>
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<td>• Experience of managing post-doctoral workers and research budgets</td>
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<tr>
<td>• Higher Education professional accreditation or equivalent qualification</td>
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<tr>
<td>• Experience of working in/with industry</td>
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<tr>
<td>• Experience of working with and influencing policy makers, governmental and/or non-governmental institutions</td>
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<table>
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<tr>
<th>Personal abilities and qualities</th>
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<tr>
<td><strong>Essential:</strong></td>
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<tr>
<td>• Ability to work collaboratively with others in an interdisciplinary context for teaching or research</td>
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<td>• Ability to develop a leadership role in teaching and research, commensurate with stage of career</td>
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<td>• The ability to write on issues outside of immediate area of expertise but in a related topic, in an informed and coherent manner</td>
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<td>• Enthusiasm for supporting distance learning by adults and for the application of new technologies to teaching and supporting students</td>
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• The ability to work adaptively and responsively with a variety of colleagues in multidisciplinary teams
• Excellent communication skills, both oral and written in a variety of contexts, including the ability to offer and receive constructive criticism
• Ability to plan and organise work to agreed deadlines
• Commitment to the aims, ethos and values of the Open University including the principles and practice of equality and diversity

Desirable:
• Ability to develop new collaborative partnerships within the University and with external organisations.

3. Role specific requirements e.g. Shift working

5. About the unit/department

Faculty of Science, Technology, Engineering & Mathematics
The newly formed Faculty of Science, Technology, Engineering and Mathematics (STEM) comprises:

- School of Computing & Communications
- School of Environment, Earth & Ecosystem Sciences
- School of Engineering & Innovation
- School of Life, Health & Chemical Sciences
- School of Mathematics & Statistics
- School of Physical Sciences
- Knowledge Media Institute
- Deanery including teams supporting Curriculum, Research and Enterprise, Laboratory Infrastructure and Faculty Administration

“We aspire to be world leaders in inclusive, innovative and high impact STEM teaching and research, equipping learners, employers and society with the capabilities to meet tomorrow’s challenges”

The Faculty of STEM consists of 700 staff and 1,800 Associate Lecturers. The Faculty delivers over 185 modules across undergraduate and postgraduate curriculum, supporting more than 20,000 students (full time equivalents) which is 29% of the OU total.

The Faculty generates more research income (circa £20M) than any other Faculty in the University, supported by a comprehensive laboratory infrastructure.

We are proud of our distinctive values and capabilities underpinning our aspiration:

We are inclusive:
- We transform people’s lives, ensuring STEM education is openly accessible to many thousands of students from diverse backgrounds – our students express high satisfaction with their study experience
- We engage the public in exciting citizen science and engineering, including through free open educational resources, multi-platform broadcasting, outreach to inspire the next generation and with programmes to encourage more women into STEM

We are highly innovative:
We are at the forefront of innovative developments in teaching practical science and engineering at a distance, through simulated and remote access laboratories and practical experimentation. Our high quality teaching and curriculum are informed by world-leading research, strong links with professional bodies and communities of practitioners, as well as by scholarship focused on continuously improving our STEM pedagogy.

**We deliver significant social and economic impact:**

- We provide STEM higher education at a scale and reach unsurpassed in the UK, with a sizeable international reach and further growth potential.
- We inject transferable STEM skills and knowledge direct into the workplace for immediate employee and employer benefit, as students combine study while working.
- The employability value of our courses is underpinned by accreditation from leading STEM Professional Bodies and Learned Societies, as well as partnerships and sponsorship with leading employers.
- Our high quality, applied and academically relevant teaching and research addresses real-world issues, delivering impact for industry and society, including addressing pressing STEM skill-shortages across the UK.

**School of Physical Sciences**

The School of Physical Sciences is a lively and innovative community of approximately 90 academic and research staff and 70 PhD students, mostly based in Milton Keynes. Our curriculum is supported by associate lecturer staff based all over the UK and Ireland; physics, astronomy and planetary sciences undergraduate modules are currently being studied by hundreds of students all over the world and we also contribute to an introductory and interdisciplinary science modules being studied by several thousand students.

Our research covers a wide range of subjects, broadly aligned with the research disciplines of:

- Astronomy
- Physics
- Planetary and Space Sciences
- Space Instrumentation
- Physics Education

We have an unparalleled suite of analytical instrumentation in our modern laboratories on campus; this is complemented by our regular use of multi-national facilities such as the Diamond synchrotron and ESO’s telescopes. We have contributed to well-known space missions such as the Rosetta Mission, and have developed some of our spaceflight instrumentation for medical and environmental applications.

School members also contribute to the Open University’s teaching on a large range of modules and we have been at the forefront of many innovations in distance education, including the award winning OpenSTEM Labs, that feature the OpenScience Laboratory and the OpenScience Observatories. We are members of SEPnet, the South East Physics Network. Our commitment to equality and diversity has been recognised by the award of “Juno Champion” status by the Institute of Physics and an Athena SWAN Silver Award.

We currently offer undergraduate qualifications in Mathematics and Physics and Natural Sciences (with a physics pathway and an astronomy and planetary science pathway), with a strand which carries Institute of Physics accreditation. We are in the process of refreshing the curriculum, both at intermediate level and at Stage 3. In the near future we hope to develop and integrated MPhys, including physics, astronomy, planetary and Space science. At postgraduate level we offer an MSc in Space Science and Technology.

**Physics and Physics Education Priority Research Areas**

- Molecular physics: theoretical and experimental study of electron and photon interactions with molecules and molecular clusters in order to provide insights into processes of relevance in medical physics, environmental science, nanofabrication, etc. We specialize in experimental studies of radiation induced dynamics in controlled neutral biomolecular clusters and computational studies (involving software development) to investigate diverse molecular phenomena of fundamental and applied interest.
- Quantum Technology: theoretical and experimental study of quantum correlations in atomic, molecular and
condensed matter systems, and the development of applications such as quantum enhanced devices, quantum neural networks and the functionalisation of materials.

- Engineering physics: applied plasma research aimed at the functionalisation of materials, understanding electron initiated processes in nanofabrication and the development of plasma-driven techniques for advanced materials applications.
- Physics education: Remote and virtual experimentation; Concept inventories; Interactive online assessment; Demographic differences in achievement.

6. How to obtain more information about the role or application process

If you would like to discuss the particulars of this role before making an application please contact Professor Sally Jordan +44 (0)1908 332018 or email: STEM-SPS-HOS@open.ac.uk.

If you have any questions regarding the application process please contact Fiona McGavin on +44 (0)1908 858110 or email: STEM-Recruitment@open.ac.uk.

7. The application process and where to send completed applications

<table>
<thead>
<tr>
<th>Your application should contain:</th>
<th>1. A completed short application form</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>2. Covering letter</td>
</tr>
<tr>
<td></td>
<td>3. CV which includes details of academic qualifications, teaching, management, and research experience including grants received and publications.</td>
</tr>
</tbody>
</table>

Please ensure that your application reaches the University by: Noon on Friday 26 October 2018

E-mail your application to: STEM-Recruitment@open.ac.uk

Or post it to Name/Job title: Fiona McGavin, Staffing Coordinator

Department/Unit: Deanery, Faculty of Science, Technology, Engineering & Mathematics

Address: Chambers Building
Walton Hall
Milton Keynes
MK7 6AA

8. Selection process and date of interview

The interview panel will be chaired by: Professor Nick Braithwaite

The other members of the interview panel will be:
Professor Sally Jordan
Professor David Sharp
Dr Jimena Gorfinkiel
Dr Ulrich Kolb
Dr Doug Clow

The interviews will take place on: 5 December 2018
For shortlisted candidates, the selection process for this post will include:

1. A formal interview
2. A short, specified teaching activity to be completed before the interview date;
3. A presentation of an aspect of your research to members of the School.

The teaching text and presentation will be discussed with you as part of the selection process.

We will let you know as soon as possible after the closing date whether you have been shortlisted for interview. Further details on the selection process will also be sent to shortlisted candidates.

Applications received after the closing date will not be accepted.